

## NOTES FROM THE BOTANIC GARDENS, SYDNEY.

No. 4.

By J. H. MAIDEN AND E. BETCHIE.

## PITTOSPOREÆ.

CITRIOBATUS LANCIFOLIA, F. M. Bailey (*Bot. Bull.* No. vii. p. 60, 1893). New for N.S. Wales.

Lismore (W. Bäuerlen, March, 1891 and 1893, in fruit; September, 1894, in flower). Previously recorded by Bailey from Killarney and Warwick, Queensland. According to Mr. Bäuerlen, the small tree attains a height of 25ft. in the Lismore scrub. Specimens received from Mr. R. T. Baker, Curator, Technological Museum.

## MALVACEÆ.

ABUTILON MITCHELLI, Benth.—New for N.S. Wales.

Mt. Browne (P. Corbett, November, 1898). Previously recorded from Queensland and South Australia.

Flowers yellow, larger than described in Bentham's *Flora Australiensis*, the petals attaining fully  $\frac{3}{4}$  inch in length.

## LEGUMINOSÆ.

GASTROLOBIUM BOORMANI, n.sp.

An erect shrub, 6 to 10 ft. high, with hirsute young branches. Leaves in irregular whorls of three, or alternate, ovate-cordate, about 4 to 6 lines long, tapering into a slender pungent point, glabrous above, sprinkled with a few hairs underneath, the fine reticulation prominent on both sides. Stipules spinescent, divaricate, about half as long as the leaves. Flowers axillary, solitary or more rarely in pairs or in a raceme reduced to two flowers, on

slender peduncles shorter than the leaves, with one or two small narrow bracteoles inserted about 1 line below the calyx. Calyx about  $1\frac{1}{2}$  lines long, sparingly hairy as well as the peduncles, the lobes rather longer than the tube, the two upper ones united higher up. Petals all yellow, on short claws, the standard broad, about half as long again as the calyx, longer than the lower petals, the keel obtuse, about as long as the wings. Ovarium pubescent, shortly stipitate, the ovules two in all ovaria examined. Pod narrow-ovate, nearly glabrous, pointed by the persistent base of the style. Ripe seeds smooth and shining, not strophiolate.

Top of Jilliby Jilliby Ranges, near Wyong (J. L. Boorman, November, 1897, December, 1898, January, 1899).

The hitherto single representative of the genus *Gastrolobium* in N.S. Wales (*G. grandiflorum*, F.v.M.) is a desert plant, and differs widely from our coast plant, which is more nearly allied to the W. Australian *G. spinosum*, Benth., though bearing no close relation to any described species. In general appearance it more resembles *Daviesia squarrosa*, Sm., and *Pultenaea ternata*, F v.M., but the shape of the pods removes it from the genus *Daviesia*, and the absence of the characteristic bracteoles from *Pultenaea*. The inflorescence seems at first sight to remove it also from the genus *Gastrolobium*, but the single flowers show a distinct tendency to a racemose inflorescence and may be considered as reduced racemes. All the numerous specimens brought by Mr. Boorman from the locality where it abounds are shy-flowering, with only a few scattered flowers in the axils.

#### PULTENÆA CAMPBELLI, n.sp.

A small shrub, about 2ft. high, with erect scarcely spreading slightly pubescent branches. Leaves very shortly petiolate, erect or not much spreading, linear to linear-lanceolate, with incurved margins, about 4 to 5 lines long, finely pointed but not pungent, equally green on both sides; stipules linear-subulate, appressed, brown, small and deciduous. Flowers few in small terminal heads, with scarcely any bracts. Bracteoles adnate to the base of the calyx, scarcely longer than the calyx-tube, linear-subulate, with two

broader and shorter stipules, all three brown and slightly hairy. Calyx with broad-lanceolate very acute lobes with fringed margins, otherwise glabrous, the lobes longer than the tubes, the two upper ones united at the base. Standard, keel and wings of equal length, about half as long again as the calyx-lobes, bright yellow, the keel of a duller shade. Ovarium glabrous, except a few long hairs on the top; style long and subulate. Fruit not seen.

Grave-yard Creek, near Walcha (J. F. Campbell, October, 1898).

The affinities are with *P. glabra*, Benth., from which it is distinguished by the slight hairiness, the smaller leaves, stipules and flowers, and chiefly by the shape and small size of the bracteoles. The bracteoles with their adnate stipules have the appearance of a 3-fid bracteole, but the stipule-like character of the side lobes can be recognised from analogy with several other species of *Pultenea*, especially *P. plumosa*, Sieb., in which it is very apparent; in *P. dentata*, Labill., (which derives its specific name from the bracteoles) the bracteoles and stipules are still more closely united so as to give the appearance of a dentate bracteole.

#### ACACIA HARPOPHYLLA, F.v.M.

Coolabah, Great Western Line (R. N. Peacock, 1898).

This species has been recorded in N.S. Wales from the Brigalow Creek near Narrabri, Moree, Warrah and Scone.

#### ACACIA GLAUDESCENS, Willd.

Belowra, Tuross River, N.S. Wales (J. S. Allan, 1898).

The most southerly locality hitherto recorded for this species.

#### HALORAGEÆ.

MYRIOPHYLLUM PEDUNCULATUM, Hook. f.—New for N.S. Wales

Mt. Kosciusko, circa 7000ft. Lining the bottoms of shallow ponds near the head of the Snowy River. The plant has a red cast and gives the surface of the ground a red appearance. Previously recorded from the Australian Alps in Victoria, Tasmania also, and Western Australia.

The flowers in our specimens are not pedunculate.

## MYRTACEÆ.

RHODAMNIA TRINERVIA, Blume, var. GLABRA, n.var.

Richmond River (in fruit; W. Bäuerlen, April, 1891); Mullumbimby (in flower; W. Bäuerlen, December, 1895); Burringbar (E. Betche, April, 1896). (Mr. Bäuerlen's specimens were received from Mr. R. T. Baker, Curator, Technological Museum).

Chiefly distinguished by the absence of all hairs. Shrub 5 to 10 feet high (as far as seen); the two side-nerves of the leaves are less prominent than in the typical form and closer to the margin.

## UMBELLIFERÆ.

AZORELLA MUELLERI, Benth.—New for N.S. Wales.

Mt. Kosciusko, 5500 ft. to summit (J. H. Maiden, January, 1898); tree-line to 7000 ft. (J. H. Maiden and W. Forsyth, January, 1899). Previously recorded from the summits of the Munyong Mountains, Victoria.

Bentham has a note, "This species in many respects approaches *Hydrocotyle* in character as well as in habit." Most persons would, we imagine, collect it for a *Hydrocotyle*.

## OREOMYRRIHS ANDICOLA, Endl.

Mt. Kosciusko, on the very summit, and at various elevations.

Specimens which differ from the typical form chiefly in the short fruiting pedicels which (B.Fl. iii. 377) are described as "longer than the bracts."

## CRANTZIA LINEATA, Nutt.

Apsley River, near Walcha (E. Betche, December, 1898).

The leaves are described in the *Flora Australiensis* as "from under one inch to two or three inches long or even more." The species is quite amphibious on the Apsley River, growing in mud-banks with short leaves, or floating with leaves generally six inches to one foot long, attaining 18 inches in extreme cases.

## COMPOSITÆ.

## OLEARIA ALPICOLA, F.v.M., var. AGLOSSA, n.var.

Jindabyne (W. Bäuerlen, January, 1890); Sawpit Creek, Mt. Kosciusko (J. H. Maiden, January, 1898, and 1899).

Differs from the broad-leaved form of *Olearia alpicola* in the absence of the ray-flowers, in the fewer flowers in the heads (5 to 7 in the heads examined) and in the pinkish tint of the pappus-bristles. Specimens of *O. alpicola* from the Cobberas Mountains in Victoria, collected by F. v. Mueller, as well as specimens from Woolls' Herbarium without locality, agree precisely with the ray-less Mt. Kosciusko form, except in the presence of the ray-flowers.

## LEPTORRHYNCHUS SQUAMATUS, Less.

Mt. Twynam, Mt. Kosciusko (J. H. Maiden and W. Forsyth, January, 1899).

A comparatively broad-leaved form, uniformly hairy on both sides of the leaf. The peduncle short or absent.

## ABROTANELLA NIVIGENA, F.v.M.—New for N.S. Wales.

Mt. Kosciusko, tree-line to summit (J. H. Maiden and W. Forsyth, January, 1899). Previously recorded from the summits of the Munyong Mountains, Victoria.

HELIPTERUM CORYMBIFLORUM, Schlect., var. ? MICROGLOSSA, F.v.M.  
in *B.Fl.* iii. 647.

We proposed (P.L.S.N.S.W., May, 1897) to raise this variety to the rank of a species, under the name of *H. microglossum*. On examination of additional material and as a result of a visit by one of us to the National Herbarium, Melbourne, where a large series of specimens was examined, we have arrived at the conclusion that the new species is untenable, although extreme forms of *H. corymbiflorum* and its variety are very dissimilar in appearance.

Since then Prof. Tate has shown (*Proc. Roy. Soc. S.A.* xxii. 121) that he had raised the variety *microglossum* to the rank of a species so far back as 1883.

Botanists have therefore a choice of designations for the plant, but we are of opinion that the Melbourne Herbarium dwarf forms with shorter rays and narrow flower heads distinctly show a connection between *H. corymbiflorum* and *H. microglossum*.

GNAPHALIUM JAPONICUM, Thunb., var. RADICANS, F.v.M., MS.

Mt. Kosciusko, tree-line to 7000 ft. (J. H. Maiden and W. Forsyth, January, 1899).

This alpine variety bears the unpublished manuscript name of F. v. Mueller, given to specimens collected by him nearly half a century ago on the Mnyong Mountains, Victoria.

#### SCROPHULARINEÆ.

GLOSSOSTIGMA SPATHULATUM, Arn.—New for N. S. Wales.

Common on the banks of the Apsley River near Walcha (E. Betche, December, 1898). Dispersed over tropical Asia and Africa. In Australia previously recorded from Queensland.

The colour of the flower seems to vary greatly. Bentham describes it in the *Flora Australiensis* as blue; in the figure of an Indian specimen in Hook., *Bot. Misc.* ii. suppt. 4, the colour is white and pinkish with a pink style, while our Apsley River specimens are of a pure white. *Glossostigma spathulatum* grows on the Apsley River in company with the pretty blue *G. elatinoïdes*, Benth., and both are remarkable for the sensitiveness of the tongue-shaped style. The upper part of the style is curved over the stamens, and at the lightest touch moves slowly back to the upper lip, uncovering the stamens. Students interested in this pretty contrivance to insure cross-fertilization will find a full account in "Notes on the Fertilization of *Glossostigma*" by J. F. Cheeseman in *Trans. New Zealand Inst.* 1877, p. 353.

LIMOSELLA AQUATICA, Linn., var. with terete leaves.

Banks of the Apsley River, closely associated with *Glossostigma spathulatum*, Arn., (E. Betche, December, 1898).

Though this almost cosmopolitan plant varies greatly in the breadth of the leaves and the leaves of the common Australian

form are narrower than in the European and Asiatic specimens, we have never met before with quite terete leaves.

#### LABIATÆ.

*PLECTRANTHUS CONGESTUS*, R.Br. — New for N.S. Wales.

Mt. Nullum (about 800 ft. high) near Murwillumbah, Tweed River (Dr. G. A. Goldsmid, February, 1899). Previously recorded from Queensland.

#### MONIMIACEÆ.

*PIPTOCALYX MOOREI*, Oliv.

Dividing Range, between Sandy Flat and Mount Spiraby, Tenterfield district (J. H. Maiden, December, 1898).

This rare and interesting plant (figured in 1895 in Hooker's *Icones Plantarum*, pl. 2367) has been previously recorded only from the Kempsey district on the Hastings River, and from Wollombi and Guy Fawkes on the Armidale road.

#### LAURINEÆ.

*ENDIANDRA GLOBOSA*, n.sp.

A tall straight-stemmed tree, glabrous in all its parts, except minute hairs on the inflorescence. Leaves ovate-elliptical, acuminate but obtuse, 5 to 5½ inches long and 2 to nearly 3 inches broad, finely reticulate and equally green on both sides, narrowed into a short petiole. Panicles in the few specimens seen much less than half as long as the leaves. Calyx- (or perianth-) tube small, the limb very open, consisting generally of six broad segments. Stamens: three fertile ones alternating with three short thick rudimentary ones, and a large scale-like gland on each side of the fertile stamens. Ripe fruits perfectly globular, two inches in diameter, resting on a short thick pedicel, with a thin pericarp and a hard woody endocarp.

Near Murwillumbah, Tweed River, N.S.W. (Dr. J. A. Goldsmid, December, 1898).

The large fruits, of the shape and size of a small billiard ball, are frequently picked up in the dense brush forests of the Richmond and Tweed Rivers, and have been known to us for many years, but on account of the large size of the tree and the difficulty of collecting in dense brushes we have not hitherto been able to procure correctly matched flowering specimens till we succeeded in interesting Dr. Goldsmid, a resident of Murwillumbah, in the subject.

In affinity it is nearest to *E. Sieberi*, Nees, from which it is scarcely distinguished in the flowers; but its habit, foliage and fruit are so different that we cannot consider it a variety of that species.\*

#### PROTEACEÆ.

ISOPOGON DAWSONI, R. T. Baker.

Nepean River (W. Forsyth, September, 1898).

Originally found by Mr. Baker in the Murrumbo Ranges, Goulburn River, in 1893, and described by him in the Proc. of this Society in March, 1895. We hereby record a new locality for this rare plant.

PERSOONIA CHAMÆPEUCE, Lhotsky.

Apsley Falls, near Walcha (E. Bêche, December, 1898).

Sunny Corner and Mudgee have been recorded hitherto as the most northern localities.

MACADAMIA TERNIFOLIA, F.v.M., var. INTEGRIFOLIA.

Described by us in the Proc. of this Society in November, 1896, as *M. integrifolia*, n.sp., but since we have had, through Mr. Luehmann's kindness, the opportunity of comparing the rich material accumulated in the Melbourne Herbarium, and have

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\* Since this paper was in type we have been favoured by Mr. R. T. Baker with good flowering specimens collected by Mr. W. Bäuerlen, near Murwillumbah, in October, 1892. It is described as a "Tree of 25 ft." on the label.—23. vi. 99.



found all degrees of transition between the two extreme forms, we have been forced to the conclusion that it can only be a variety, and is merely another instance of the great variability of the Proteaceous trees from which the Order derives its name.

#### SANTALACEÆ.

EXOCARPUS NANA, Hook. f.—New for N.S. Wales.

Bullrock Mt. (W. Bäuerlen, 1890); Pretty Point, Mt. Kosciusko (J. H. Maiden and W. Forsyth, January, 1899).

A wiry plant a few inches high, forming a tangled mass encircling a rock in boggy ground.

This plant has been confused with *E. humifusa*, R.Br. In our plant the scale-like leaves are all opposite or nearly so, and not alternate as in *E. humifusa*. *E. nana* is recorded from Victoria ("Summit of Cobberas Mountains at an elevation of 6000 ft.") while the true *E. humifusa*, R.Br., is only recorded from Tasmania.

#### GRAMINEÆ.

EREMOCHLOA MURICATA, Hackel, in De Candolle's Prodomus, *Monogr. Andropog.* p. 262 (1889)—Byron Bay (W. Forsyth, October, 1898).

Synonymy according to Hackel, *Aegilops muricata*, Retz., *Rottboellia muricata*, Retz., *Ischaemum pectinatum*, Trin., *Andropogon pectinatus*, Steud.

Recorded previously from the northern coast district of N.S. Wales (extending to the Tableland), as *Ischaemum pectinatum*, Trin. The grass described in the *Flora Australiensis* as *Rottboellia muricata*, Retz., is, according to Hackel, the var. *commutata* of *Rottboellia ophiuroides*, Benth., and not the true *Rottboellia muricata* of Retzius, which is synonymous with *Eremochloa muricata*.

Hackel separates *Eremochloa*, Büse, from *Ischaemum*, Linn., chiefly by the following characters—

*Ischaemum*.—Pedicellate spikelets developed, flower-bearing. Sessile spikelets awned or with the flowering glume at least mucronate-pointed.

*Eremochloa*.—Pedicellate spikelets very rudimentary, sessile spikes awnless; first outer glume pectinate-fringed at least at the base. Spike solitary.

We feel fully justified in departing from the nomenclature of Bentham and F. v. Mueller (*B. Fl.* vii., 521) and introducing the genus *Eremochloa* into the Flora of N.S. Wales. Recent monographical works of eminent specialists like Prof. Hackel are not to be ignored, and the genus has already been recognised by J. D. Hooker in the *Flora of British India* (Vol. vii. p. 180, Gramineæ).

AGROSTIS (DEYEUXIA) Densa, F.v.M.—New for N.S. Wales.

Mt. Kosciusko, 6000 ft. (R. Helms, February, 1893); Pretty Point, Mt. Kosciusko, 5500 ft.

Mr. Helms' specimens are broad-leaved and have the awn attached somewhat above the middle of the glume, while in the recently collected specimens from Pretty Point the leaves are narrower and the awn is attached a little below the middle. In spite of the difference in the attachment of the awn we must consider the two forms identical with Bentham's *Deyeuxia densa*, in which the awn is described as attached "about the middle."

In nearly all our Mt. Kosciusko *Agrostis* we find the attachment and length of the awn, and even the comparative length of the flowering glume, unreliable characters subject to great variations. Amongst the grasses recently collected on Mt. Kosciusko by Maiden and Forsyth we find *A. Muelleri*, Benth., in three distinct forms: the typical awnless form, another form with a very short awn or small point attached near the top, and a third form with an awn at least twice as long as the flowering glume attached near the middle. In all other respects the three forms are quite identical. *A. nivalis*, F.v.M., has also been collected in two forms, the one identical with the Victorian type specimen from Mt. Buller, the other with the flowering glume considerably shorter than the outer glumes.

Mr. L. Rodway has made a similar observation in Tasmanian species of *Agrostis*; he writes in a private letter (with regard to *A. quadrisetu*): "The typical form has the awn inserted below

the middle, but in Tasmanian forms at least this is totally unreliable."

DEVEUXIA BREVIGLUMIS, Benth.

On banks of creeks near Mt. Spiraby, eastern side of Dividing Range near Tenterfield (J. H. Maiden, December, 1898). In similar situations at Jindabyne and Sawpit Creek, Mt. Kosciusko (J. H. Maiden and W. Forsyth, January, 1899). These localities are given as this grass has rarely been recorded.

It forms patches of turf three to six inches long or, under the protection of clumps of *Juncus*, &c., it elongates considerably, forming a thin, weak-growing grass of great length (one of us has measured specimens 3 ft. long !)

Mr. J. G. Luehmann has since informed us that it was collected at Braidwood by Bäuerlen, and that he also has received it from Walcha, N.S.W.

FILICES.

PTERIS FALCATA, R. Br., var. NANA, Bailey, *Synops. of Q. Fl.* p. 669.

On rocks near the Apsley and Tia Falls (E. Betcher, December, 1898).

According to Mr. Bailey this form is common in every scrub in Queensland, but it has not been previously recorded from N.S. Wales.